



DSLR Shoulder Rig

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Summary

This thing is a 3D printed shoulder rig for DSLR cameras to help stabilize when shooting video. I'm using the industry...

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Tags: [camera](#) [video](#) [openscad](#) [dslr](#) [railsystem](#)

This thing is a 3D printed shoulder rig for DSLR cameras to help stabilize when shooting video.

I'm using the industry standard aluminum pipe size and spacing, so it should be possible to combine these printed parts with commercially available parts and/or rigs, though I have only tried that once with a part for a friends rig.

All the parts are designed in OpenSCAD and those source files are included below, in case you want to modify the parts to work with other pipes, differently sizes screw, etc.

Instructions

To print a rig like the one on the picture, you will need to print:

- 1 pcs. camera_plate.stl
- 2 pcs. std_clamp_b.stl

- 2 pcs. dual_parallel_std_clamp_a.stl
- 1 pcs. std_clamp_handle_holder_30deg.stl
- 1 pcs. std_clamp_handle_guide_30deg.stl
- 1 pcs. std_clamp_handleholder-30deg.stl
- 1 pcs. std_clamp_handleguide-30deg.stl
- 1 pcs. shoulder_holder_160.stl go shoulder_sholder_320
- 2 pcs. shoulder_holder_bracket.stl

In addition to the parts on this thing, you will also need a bunch (16 pcs for the pictured rig) of these (<http://www.thingiverse.com/thing:11848>) little thumb screws by Habbycam. It's designed for 1/4 inch, but I'm using them with M6 without any major problems.

You will also need some aluminum pipes. The main pipes have an outer diameter of 15mm and the two handle pieces have an outer diameter of 20mm. I have found that the fairly cheap ones in the local hardware store can vary in dimensions, but it's what I use in my rig. Some times you will need to trim the parts a little bit to fit the pipe, at other times you might need to adjust the drawings (via the OpenSCAD files) for fit your pipes.

The foam handles are for a kids bike and also from the local hardware store. The foam shoulder pad is just a left over piece of foam that has been covered in nylon cloth and mounted in the shoulder piece with velcro.

To put everything together you will also need some screws and nuts. I use M6 for everything except mounting of the Manfrotto sliding plate, that one is mounted with 4 pcs M4 screws and lock nuts.

Screws needed:

- You will need an M6 hex screw for each thumbscrew. 4 pcs. in 40mm (for the shoulder holder and handles), 10 pcs. 30mm
- 4 pcs. countersunk M6 screws (to mount the camera plate)
- 20 pcs. M6 nuts
- 4 pcs. M4 20mm screws with M4 lock nuts (for mounting the Manfrotto 357 plate)

I am using a MANFROTTO 357 SLIDING PLATE ADAPTOR to mount the camera, but if you don't want that or want to use a different quick release plate, I have added holes in the middle of the camera plate for a 1/4 inch screw (with thumbscrew) that mates with the camera tripod mount or quick release plate.

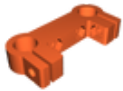
In addition to the rig itself, I have also added a few parts to hold an audio recorder like the Zoom H4n (h4n_holder.stl and h4n_mounting_clamp.stl) and a little clip to hold the camera strap in case you use one of those (strap_clip.stl).

The lasercut_parts.pdf file holds two designs for cutouts in 2mm corc. Those are intended to be glued onto the camera plate and the H4n holder, to help ensure a good grip without scratching the mounted equipment. When mounting the Manfrotto plate, you don't need this cork piece.

Model files



shoulder_holder_bracket.stl



std_clamp_b.stl



shoulder_holder_160.stl



shoulder_holder_320.stl



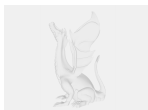
dkhackmeisterstd_library.scad



camera_plate.stl



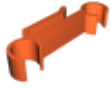
std_clamp_handle_guide_30deg.stl



dkhackmeisterdslr_rig_library.scad



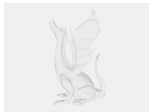
std_clamp_handle_holder_0deg.stl



strap_clip.stl



std_clamp_handle_guide_0deg.stl



dkhackmeisterdslr_rig.scad



h4n_mounting_clamp.stl



std_clamp_handle_guide_-30deg.stl



dual_parallel_std_clamp_a.stl



h4n_holder.stl

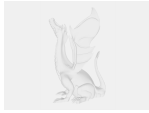


std_clamp_handle_holder_-30deg.stl



std_clamp_handle_holder_30deg.stl

Other files



lasercut_parts.pdf

[Find source .stl files on Thingiverse.com](#)

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